

FEATURES

- Compact 316 SS construction
- Factory set or field adjustable setpoints
- Expanded selection of pressure and electrical connections
- SIL 3 capable
- Watertight or explosion proof

SPECIFICATIONS

Set Repeatability (Accuracy): $\pm 2\%$ of span (additional setpoint shift $\pm 2\%$ of span per 40°F from initial setpoint setpoint at 70°F typical)

Switch Type: SPDT or DPDT

Setpoint: Single setpoint - Factory set or field adjustable

Deadband: Fixed

Enclosure Ratings: Watertight: NEMA 6, IP67
Explosion Proof: NEMA 4X, 7, 9, IP67

Enclosure Material: 316L SS

Approvals: Watertight: UL, CSA, CE, CRN, SIL 3 capable, RoHS

Explosion Proof: UL, CSA, CE, CRN, SIL 3 capable, RoHS, FM, ATEX, IECEx, Dual Seal



FACTORY
SEALED



APPROVED



LISTED

CLASS I DIV 1 GROUPS A, B, C, & D

CLASS II DIV 1 GROUPS E, F, & G

T5 or T6 – see Material and Temperature Range Table



Sira 13ATEX1123X

IECEx
CSA 13.0015X

Ex d IIC T6/T5 Gb

Ex tb IIIC T85°C/100°C Db

T5 or T6 – see Material and Temperature Range Table



A-Series
Watertight Pressure Switch



A-Series
Explosion Proof Pressure Switch



A-Series Miniature Pressure Switches

ORDERING CODE	Example:	APA	N4	1	G	012C	V	02	100#	60	R	XNO
Function												
APS - Pressure switch, single setpoint, fixed deadband, factory set, not field adjustable												
APA - Pressure switch, single setpoint, fixed deadband, factory set, field adjustable												
Enclosure												
N4 - Watertight 316 SS body												
N7 - Explosion proof 316 SS												
Micro Switch, First Character												
1 - Single switch, SPDT												
2 - Dual switch - DPDT (N4 - not available with "S" actuator < 100 psi, range, N7 - not available with "S" actuator or P&G micro switch)												
Micro Switch, Second Character												
G - Gold contact - 0.1A @ 125 Vac, 0.1A @ 30 Vdc												
H - High current - 5A @ 125/250 Vac, 5A @ 28 Vdc resistive, 3A @ 28 Vdc inductive												
L - High current, gold contact - 1A @ 125 Vac, 1A @ 28 Vdc resistive, 0.5A @ 28 Vdc inductive												
P - General purpose - 3A @ 125 Vac, 2A @ 30 Vdc												
Electrical Connection												
000H - Micro DIN connector - Watertight DIN 43650 Form C cable socket without mating connector, not available with DPDT switching, Not available with N7 enclosure												
00MH - Micro DIN connector - Watertight DIN 43650 Form C cable socket with mating connector, not available with DPDT switching, Not available with N7 enclosure												
000N - Nonstandard, customer specified, see # variation, Not available with N7 enclosure												
000T - Spade Terminals, 4 - 0.187" Male spade - not available with DPDT switching, Not available with N7 enclosure												
C - ½ NPT Male conduit with 18 AWG wires (Note ____ e.g. 012C = 12" lead wires, Specify wire length in inches)												
L - Wire leads, 3-18 AWG PVC insulated wires (Note ____ e.g. 012L = 12" lead wires, Specify wire length in inches), Not available with N7 enclosure												
G - M20 X 1.5 Male conduit connection with 18 AWG wires (Note ____ e.g. 012G = 12" lead wires, Specify wire length in inches)												
K - M20 X 1.5 Male conduit connection with 4 conductor jacketed cable with 18 AWG wires (Note ____ e.g. 012K = 12" lead wires, Specify wire length in inches), not available with DPDT switching, Not available with N7 enclosure												
J - ½ NPT Male conduit connection with 4 conductor jacketed cable with 18 AWG wires (Note ____ e.g. 012J = 12" lead wires, Specify wire length in inches), not available with DPDT switching, Not available with N7 enclosure												
Actuator Seal												
B - 316 SS piston & Buna-N® O-ring, ranges ≥ 100 psi												
V - 316 SS piston & Viton® O-ring, ranges ≥ 100 psi												
S - 316 SS welded diaphragm, ranges ≤ 200 psi												
N - 316 SS piston & HNBR O-ring, ranges ≥ 100 psi												
Process Connection												
01 - ⅛ NPT Male												
02 - ¼ NPT Male												
03 - ⅜ NPT Female (not available for B, V, N actuators)												
04 - ½ NPT Male												
05 - 7/16-20 SAE Male												
06 - VCR fixed (not available for B, V, N actuators)												
07 - VCO fixed (not available for B, V, N actuators)												
08 - 7/16-20 SAE Female												
12 - G ¼ A (Type E Stud End)												
13 - G ¼ B												
25 - ½ NPT Female (not available for B, V, N actuators)												
50 - ½ NPT Female												
46 - 9/16-SAE Female												
76 - 7/16-20 SAE w/37° flare end												
75 - ¾ Tri-Clamp® connection (includes 3A approval), range ≤ 500 psi												
15 - 1½ Tri-Clamp® connection (includes 3A approval), range ≤ 500 psi												
20 - 2.0 Tri-Clamp® connection (includes 3A approval), range ≤ 500 psi												
Ranges (select from tables on page 90-91 for additional ranges)												
100# - 100 psi												
Setpoint												
60 - 5 Characters maximum representing setpoint of the switch in the same units as the ranges of the switch. For setpoints in vacuum specify as "-" pressure. If no set point is required on an APA switch use either "NSR" or "NSD". If direction is not known use "NSR" as default												
Setpoint Direction												
R - Rising pressure (increasing pressure, decreasing vacuum)												
D - Decreasing pressure (decreasing pressure, increasing vacuum)												
Options (select from table on page 91 (If choosing an option(s) must include an "X")												
NO - 2 wire leads w/ground wire – wired for normally open operation												

EXPLOSION PROOF**MATERIAL AND TEMPERATURE RATINGS** (based on mat'l and switch code)

SWITCH CODE	MATERIAL CODE	MATERIAL	TEMP. MIN	T5 Ta MAX	T5 Tp MAX	T6 Ta MAX	T6 Tp MAX
1H, 2H, 1L, 2L	S	316 SS	-40°F (-40°C)	192°F (89°C)	192°F (89°C)	165°F (74°C)	165°F (74°C)
1H, 2H, 1L, 2L	B (Ranges 500-7500 psi)	316 SS, Buna-N®	-40°F (-40°C)	192°F (89°C)	192°F (89°C)	165°F (74°C)	165°F (74°C)
1H, 2H, 1L, 2L	B (Ranges 100, 200, 10,000, 15,000 psi)	316 SS, Buna-N®	-4°F (-20°C)	192°F (89°C)	192°F (89°C)	165°F (74°C)	165°F (74°C)
1H, 2H, 1L, 2L	V	316 SS, Viton®	-4°F (-20°C)	192°F (89°C)	192°F (89°C)	165°F (74°C)	165°F (74°C)
1H, 2H, 1L, 2L	N (Ranges 500-7500 psi)	316 SS, HNBR	-40°F (-40°C)	192°F (89°C)	192°F (89°C)	165°F (74°C)	165°F (74°C)
1H, 2H, 1L, 2L	N (Ranges 10,000, 15,000 psi)	316 SS, HNBR	-4°F (-20°C)	192°F (89°C)	192°F (89°C)	165°F (74°C)	165°F (74°C)
1P, 1G	S	316 SS	-4°F (-20°C)	165°F (74°C)	165°F (74°C)	165°F (74°C)	165°F (74°C)
1P, 1G	B	316 SS, Buna-N®	-4°F (-20°C)	165°F (74°C)	165°F (74°C)	165°F (74°C)	165°F (74°C)
1P, 1G	V	316 SS, Viton®	-4°F (-20°C)	165°F (74°C)	165°F (74°C)	165°F (74°C)	165°F (74°C)
1P, 1G	N	316 SS, HNBR	-4°F (-20°C)	165°F (74°C)	165°F (74°C)	165°F (74°C)	165°F (74°C)
All	N	316 SS, HNBR	-4°F (-20°C)	192°F (89°C)	192°F (89°C)	165°F (74°C)	165°F (74°C)

WATERTIGHT**MATERIAL & TEMPERATURE**

ACTUATOR SEAL	MATERIAL	TEMPERATURE RANGE
S	316 SS	-40°F to 212°F (-40°C to 100°C)
B (Ranges 100#, 200 psi)	316 SS, Buna-N®	-4°F to 212°F (-20°C to 100°C)
B (Ranges 500# to 15000 psi)	316 SS, Buna-N®	-40°F to 212°F (-40°C to 100°C)
V	316 SS, Viton®	-4°F to 212°F (-20°C to 100°C)
N	316 SS, HNBR	-4°F to 212°F (-20°C to 100°C)

PRESSURE RATINGS										
CONFIGURATION		MAX. WORKING PRESSURE "MWP"			PROOF PRESSURE "PROOF"			BURST PRESSURE		
RANGES (psi)	w/SEAL	psi	bar, kg/cm ²	kPa	psi	bar, kg/cm ²	kPa	psi	bar, kg/cm ²	kPa
up to 200	S	800	55	5,500	1,000	70	7,000	>9,500	>655	>65,500
100-200	B, V or N	2,000	140	14,000	2,000	140	14,000	>10,000	>700	>70,000
500-2,000	B, V or N	5,000	350	35,000	8,000	550	55,000	>30,000	>2,100	>210,000
5,000-7,500	B, V or N	10,000	700	70,000	15,000	1,000	10,000	>50,000	>3,500	>350,000
10,000-15,000	B, V or N	15,000	1,000	100,000	20,000	1,400	140,000	>45,000	>31,000	>310,000

A SERIES SWITCH PERFORMANCE CHARACTERISTICS												
RANGE (Ordering Code)			SETPOINT REPEATABILITY			SETPOINT ADJUSTABILITY			DEADBAND (DB)			
psi (#)	bar, kg/cm² (BAR) (KSC)	kPa (KP)	psi	bar, kg/cm²	kPa	psi	bar, kg/cm²	kPa	psi	bar, kg/cm²	kPa	
DIAPHRAGM	-15/15	-1/1	-100/100	±0.6	±0.4	±4	-15/15	-1/1	-100/100	1-5	0.07-.35	7-35
	30	2	200	±0.6	±0.4	±4	6-30	0.4-2	6-200	1-5	0.07-.35	7-35
	60	4	400	±1.2	±0.8	±8	8-60	0.6-4	60-400	2-10	0.14-.70	14-70
	100	7	700	±2	±0.14	±14	10-100	0.7-7	70-700	3-15	0.2-1.0	20-100
	200	14	1400	±4	±0.28	±28	20-200	1.4-14	140-1,400	3-30	0.2-2.0	20-200
PISTON	100	7	700	±2	±0.14	±14	20-100	1.4-7	140-700	3-15	0.2-1.0	20-100
	200	14	400	±4	±0.28	±28	40-200	2.8-14	280-1,400	3-30	0.2-2.0	20-200
	500	35	3500	±10	±0.70	±70	50-500	3.5-35	350-3,500	20-100	1.4-7.0	140-700
	1000	70	7000	±20	±1.40	±140	100-1,000	7-70	700-7,000	25-150	1.7-10	170-1,000
	2000	140	14000	±40	±2.8	±280	200-2,000	14-140	1,400-14,000	30-300	2-20	200-2,000
	5000	350	35000	±100	±7.0	±700	500-5,000	35-350	3,500-35,000	75-750	5-50	50-5,000
	7500	500	50000	±150	±10	±1,000	750-7,500	50-500	5,000-50,000	110-1,100	7.5-75	750-7,500
	10000	700	70000	±200	±14.0	±1,400	100-10,000	70-700	7,000-70,000	250-2,500	17-170	1,700-1,700
	15000	1000	10000	±300	±20	±2,000	1,500-15,000	100-1,000	10,000-100,000	300-3,000	20-200	200-20,000

OPTIONS	
Code	Description
C4	Individual certified calibration chart
FP	Fungus proofing
MQ	Positive Material Identification (75, 15 & 20 process conn. only)
NC	2 wire leads w/ground wire – wired for normally closed operation
NO	2 wire leads w/ground wire – wired for normally open operation
NH	SS tag
NN	Paper tag
6B	Cleaned for oxygen service
GO	No ground wire

FEATURES

- Setpoint adjustable from 15-100% of range
- Fixed or limited adjustable deadband
- SIL 3 capable
- Explosion proof enclosure available



SPECIFICATIONS

Set Repeatability (Accuracy):	±1% of span (Additional setpoint shift of ±1% of range per 50°F from initial setpoint set at 70°F typical)
Switch Type:	SPDT or DPDT
Setpoint:	Single setpoint - Factory set or field adjustable
Deadband:	Fixed or limited adjustable deadband
Enclosure Ratings:	B4/D4 - NEMA 4X, IP66 B7/D7 - NEMA 7/9, IP66
Enclosure Material:	Watertight: epoxy coated aluminum Explosion: epoxy coated aluminum or 316 SS
Approvals:	Watertight: UL, CSA, FM, CE, SIL 3 capable, CRN Explosion Proof: Standard: FM, UL, CE, CRN Optional: ATEX, CSA, IECEx SIL 3 capable
  FACTORY SEALED LISTED CLASS I DIV 1 GROUPS B, C, & D CLASS II DIV 1 GROUPS E, F, & G  Sira 02ATEX1391X IECEx CSA 14.0077X II 2GD Ex d IIC T6 Gb Ex tb IIIC T85°C Db Ta = -20°C to +60°C	

WETTED COMPONENTS

Actuator Seal:	Buna-N®, Teflon®, Viton®, 316L SS, or Monel®	
Process Connection:	Pressure Switches 316 SS or Monel® for psi ranges Epoxy coated carbon steel or 316 SS for IW ranges	Differential Switches Nickel plated brass or 316 SS for psid ranges Epoxy coated carbon steel or 316 SS for IWD ranges



B4 Pressure Switch
Watertight Enclosure



B7 Pressure Switch
316 SS Explosion-Proof Enclosure



H4 Hydraulic Pressure Switch
Watertight Enclosure



D7 Differential Pressure Switch
Explosion-Proof Enclosure



D7 Differential H2O Pressure Switch
Explosion-Proof Enclosure



D4 Differential H2O Pressure Switch
Watertight Enclosure



ORDERING CODE			Example:	B4	20	B	XPX	600#
Enclosure								
B4 - Pressure switch, watertight enclosure meets NEMA 3, 4, 4X, 13 and IP66 requirements				B4				
B7 - Pressure switch, explosion-proof enclosure Standard housing epoxy coated aluminum. Use variation code XYW for 316 SS housing								
D4 - Differential pressure switch, water-tight enclosure meets NEMA 3, 4, 4X, 13 and IP66 requirements								
D7 - Differential pressure switch, explosion-proof enclosure Standard housing epoxy coated aluminum. Use variation code XYW for 316 SS housing								
Switch Element Selection - UL/CSA Listed SPDT								
20 - Narrow deadband ac, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)					20			
21 - Ammonia service, 5A - 125/250 Vac								
22 - Hermetically sealed, narrow deadband, 5A - 125/250 Vac. Estimated dc rating, 2.5A, 28 Vdc (not UL listed).								
23 - Heavy duty ac, 22A - 125/250 Vac								
24 - General purpose, 15A - 125/250/480 Vac, ½ A - 125 Vdc, ¼ A - 250 Vdc; 6A, 30 Vdc. (Standard switch)								
25 - Heavy duty dc, 10A - 125 Vac or dc, ½ HP - 125 Vac or dc. Not available with psid ranges								
26 - Sealed environment proof, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)								
27 - High temperature 300°F, 15A - 125/250 Vac								
28 - Manual reset trip on increasing 15A - 125/250 Vac. Not available with N7 enclosure								
29 - Manual reset trip on decreasing 15A - 125/250 Vac. Not available with N7 enclosure								
31 - Low level (gold) contacts, 1A - 125 Vac								
32 - Hermetically sealed, general purpose, 11A - 125/250 Vac, 5A - 30 Vdc								
42 - Hermetically sealed, gold contacts, 1A - 125 Vac								
50 - Variable deadband, 15A - 125/250 Vac								
Switch Element Selection - UL/CSA Listed Dual (2 SPDT)								
61 - Dual narrow deadband, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)								
62 - Dual sealed environment proof, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)								
63 - Dual high temperature 300°F, 15A - 125/250 Vac								
64 - Dual general purpose, 15A - 125/250/480 Vac, ½A - 125 Vdc, ¼A - 250 Vdc								
65 - Dual ammonia service, 5A - 125/250 Vac								
67 - Dual hermetically sealed, narrow deadband, 5A - 125/250 Vac. Wires cannot be terminated inside B4 switch enclosure. Estimated dc. rating, 2.5A, 28 Vdc (not UL listed)								
68 - Dual hermetically sealed, general purpose, 11A - 125/250 Vac 5A, 30 Vdc. Wires cannot be terminated inside B400 switch enclosure								
70 - Dual low level gold contacts, 1A - 125 Vac								
71 - Dual hermetically sealed, gold contacts, 1A - 125 Vac. Wires cannot be terminated inside B4 switch enclosure.								
Actuator Seal								
	Temperature Limits.		Pressure Range					
Material	Ambient	Process						
B - Buna-N®	-20°F to 150°F	0°F to 150°F	B					
V - Viton®	-20°F to 150°F	20°F to 300°F						
T - Teflon®	-20°F to 150°F	0°F to 150°F						
S - 316L SS	-20°F to 150°F	0°F to 300°F	Not available in vacuum, & inches of water ranges or pressures above 1,000 psi					
P - Monel®	-20°F to 150°F	0°F to 300°F	Not available in vacuum, & inches of water ranges or pressures above 1,000 psi					
Options (use table from page 96 (If choosing an option(s) must include an "X")							X _ _	
PK - Pilot light(s) top mounted							PK	
Range (select from tables on page 95 for additional ranges)								
600# - 600 psi								600#

ORDERING CODE		Example:	H4	24	V	XPK	3000#
Enclosure							
H4 - Hydraulic pressure switch, watertight enclosure meets NEMA 3, 4, 4X, 13 and IP66 requirements (Not CE or RoHS compliant)			H4				
Single Switch Element Selection							
20 - Narrow deadband ac, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)							
22 - Hermetically sealed, narrow deadband, 5A - 125/250 Vac. Estimated dc. rating, 2.5A, 28 Vdc (not UL listed)							
23 - Heavy duty ac, 22A - 125/250 Vac							
24 - General purpose, 15A - 125/250/480 Vac, ½A - 125 Vdc, ¼A - 250 Vdc; 6A, 30 Vdc. (Standard switch)				24			
25 - Heavy duty dc, 10A - 125 Vac or dc, ⅛ HP - 125 Vac or dc. Not available with psid ranges.							
26 - Sealed environment proof, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed).							
27 - High temperature 300°F, 15A - 125/250 Vac							
28 - Manual reset trip on increasing 15A - 125/250 Vac. Not available with N7 enclosure.							
29 - Manual reset trip on decreasing, 15A - 125/250 Vac. Not available with N7 enclosure.							
32 - Hermetically sealed switch, general purpose, 11A - 125/250 Vac, 5A - 30 Vdc							
Dual Switch Element Selection							
61 - Dual narrow deadband, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)							
62 - Dual sealed environment proof, 15A - 125/250 Vac. Estimated dc rating, 0.4A, 120 Vdc (not UL listed)							
63 - Dual high temp. 300°F, 15A - 125/250 Vac							
64 - Dual general purpose, 15A - 125/250/480 Vac, ½A- 125 Vdc, ¼A - 250 Vdc							
65 - Dual ammonia service, 5A - 125/250 Vac							
70 - Dual low level gold contacts, 1A - 125 Vac							
Actuator Seal							
Material	Process Temp. Limits	Ambient operating temperature limits -20°F to 150°F, all styles, setpoint shift of ±1% of range per 50°F temperature change is normal. Switches are calibrated at 70°F reference					
V - Viton®	20°F to 300°F	Viton® O-ring, stainless steel pressure connection			V		
Options (use table from page 96 (If choosing an option(s) must include an “X”)						X _ _	
PK - Pilot light(s) top mounted						PK	
Range							
Range psi	Adjustable Setpoint Limits psi	Proof Pressure psi					
1000	150-1,000	12,000					
2000	300-2,000	12,000					
3000	450-3,000	12,000					3000#
5000	750-5,000	10,000					
7500	1,125-7,500	10,000					

PRESSURE, DIFFERENTIAL PRESSURE RANGES

TABLE 1 - PRESSURE/VACUUM RANGES					Approximate Deadband Switch Element for Buna-N® Diaphragm				
Nominal Pressure			Overpressure Ratings		See multiplier TABLE 3 for additional material & Dual Switch multipliers				
			Proof psi	Burst psi	20, 26, 27	21, 24, 31	50	22	32, 42
Vacuum									
30IMV	−760mm Hg	-100 kPa	250	400	0.3-0.7	1.5-3.0	0.5-2.2	0.4-1.5	2.1-4.2
Compound									
15IWV/15IW	−375mm H ₂ O/ 375mm H ₂ O	−3.7 kPa/ 3.7 kPa	20	35	0.15-0.75/0.15-0.75	1.5-2.5/1.5-2.5	0.45-2.0/0.45-2.0	0.5-1.2/0.5-1.2	2.1-3.5/2.1-3.5
30IWV/30IW	−760mm H ₂ O/ 760mm H ₂ O	−7.5 kPa/ 7.5 kPa	20	35	0.30-0.60/0.30-0.60	1.5-2.5/1.5-2.5	0.45-2.0/0.45-2.0	0.5-1.5/0.5-1.5	2.1-3.5/ 2.1-3.5
30IMV/15#	−760mm Hg/ 1.0 kg/cm²	−100 kPa/ 100 kPa	250	400	0.5-1.0/0.3-0.7	2.0-3.0/0.3-0.7	0.75-2.5/0.5-1.0	0.7-1.8/0.7-1.4	2.8-4.2/0.7-2.1
30IMV/30#	−760mm Hg/ 1.0 kg/cm²	−100 kPa/ 200 kPa	250	400	1.0-1.5/0.3-0.8	3.0-6.0/0.3-0.8	1.2-4.5/0.7-1.5	1.4-2.4/0.4-1.3	4.2-8.4/1.4-2.8
30 IMV/60#	−760mm Hg/ 4.0 kg/cm²	−100 kPa/ 400 kPa	250	400	2.0-3.0/0.7-1.5	5.0-9.0/3.0-5.0	2.5-7.0/3.0-5.0	2.8-4.5/3.0-5.0	7.0-12.0/4.2-7.0
Pressure									
10IW	250mm H ₂ O	2.5 kPa	20	35	0.2-0.5	1.0-2.0	0.35-1.5	0.4-1.0	1.4-2.8
30IW	750mm H ₂ O	7.5 kPa	20	35	0.3-0.6	1.5-2.5	0.45-2.0	0.5-2.0	2.1-3.5
60IW	1,500mm H ₂ O	15 kPa	20	35	0.5-1.3	1.5-3.5	0.9-2.5	0.7-3.0	2.1-5.0
100IW	2,500mm H ₂ O	25 kPa	20	35	0.6-1.6	2.5-5.5	1.1-4.0	1.0-4.0	3.5-7.7
150IW	3,750mm H ₂ O	37 kPa	20	35	1.0-2.5	4.5-8.5	1.7-6.5	2.0-6.0	6.0-12.0
15#	1.0 kg/cm²	100 kPa	500	1,500	0.1-0.35	0.5-1.5	0.2-1.0	0.4-1.0	0.7-2.1
30#	2.0 kg/cm²	200 kPa	500	1,500	0.1-0.50	0.5-1.5	0.3-1.0	0.4-1.0	0.7-2.1
60#	4.0 kg/cm²	400 kPa	500	1,500	0.3-1.0	1.0-3.5	0.7-2.5	0.6-2.0	1.4-5.0
100#	7.0 kg/cm²	700 kPa	1,000	3,000	0.5-1.7	1.5-5.0	1.1-3.5	1.0-4.5	2.1-7.0
200#	14 kg/cm²	1,400 kPa	1,000	3,000	1-3	5-13	2-9	3.0-7.5	7.0-18.2
400#	28 kg/cm²	2,800 kPa	2,400	3,000	4-7.5	5-24	5.5-15	4.0-11.0	7.0-33.6
600#	42 kg/cm²	4,200 kPa	2,400	3,000	4-11	9-30	7-20	5.0-23.0	12.6-42
1000# ⁽¹⁾	70 kg/cm²	7,000 kPa	12,000 ⁽¹⁾	18,000	7-30	30-110	18-70	15-80	42-154
3000#	210 kg/cm²	21,000 kPa	12,000	18,000	15-60	80-235	37-160	30.0-230	112-329

(1) Proof pressure is 4,000 psi with stainless steel and Monel® welded diaphragms

TABLE 2 - DIFFERENTIAL PRESSURE RANGES					Approximate Deadband Switch for Element for Buna-N® Diaphragm				
Nominal Pressure			Pressure Ratings		See multiplier TABLE 3 for additional material & Dual Switch multipliers				
			Static Working Pressure	Proof psi					
30IWD	750mm H ₂ O	7.5 kPa	5.4	21.6	0.3-0.6	1.5-2.5	0.45-2.0	0.5-2.0	2.1-3.5
60IWD	1,500mm H ₂ O	15 kPa	5.4	21.6	0.5-1.3	1.5-3.5	0.9-2.5	0.7-3.0	2.1-5.0
100IWD	2,500mm H ₂ O	25 kPa	5.4	21.6	0.6-1.6	2.5-5.5	1.1-4.0	1.0-4.0	3.5-7.7
150IWD	3,750mm H ₂ O	37 kPa	5.4	21.6	1.0-2.5	4.5-8.5	1.8-6.5	2.0-6.0	6.3-12.0
15#D	1.0 kg/cm ²	100 kPa	500	2,000	0.5-1.0	2.0-5.0	0.7-3.5	0.7-1.4	2.8-7.0
30#D	2.0 kg/cm ²	200 kPa	500	2,000	1.0-2.0	2.0-5.0	1.5-3.5	1.4-2.8	2.8-7.0
60#D	4.0 kg/cm ²	400 kPa	500	2,000	2.0-4.0	3.0-6.0	3.0-4.5	2.8-5.6	4.2-8.5
100#D	7.0 kg/cm ²	700 kPa	1,000	4,000	4.0-10.0	11.0-20.0	7.0-15.0	6.0-14.0	16.0-28.0
200#D	14.0 kg/cm ²	1,400 kPa	1,000	4,000	5.0-15.0	12.0-40.0	10.0-26.0	7.0-21.0	17.0-56.0
400#D	28.0 kg/cm ²	2,800 kPa	1,000	8,000	10.0-20.0	20.0-60.0	15.0-40.0	14.0-28.0	28.0-84.0
600#D	42.0 kg/cm ²	4,200 kPa	1,000	8,000	20.0-40.0	80.0-150.0	30.0-115.0	30.0-56.0	12.0-210.0

TABLE 3 - DEADBAND MULTIPLIER TABLE		
Diaphragm Material	Multiply	Notes
Buna-N®	1.0	Multiplier table for additional diaphragm materials
Viton®	1.4	
Teflon®	1.7	
316 SS	1.7	
Monel®	1.7	
Dual Switch	1.6	Additional multiplier when dual switches are selected

OPTIONAL FEATURES AND ACCESSORIES

		Applicable Switch Seriesz					Notes
Code	Description	Pressure B4/B7		Differential D4/D7		Hydraulic H4	
		(psi)	(inH ₂ O)	(psi)	(inH ₂ O)		
BP	Wall mounting bracket inH ₂ O		•		•		
CH	Chained cover	•	•	•	•	•	
C8	CSA Approval	•	•	•	•		Standard on N4 Series
CN	ATEX Directive 94/9/EC/IECEx Rating	•	•	•	•		N7 Series only
D2	Dual seal rating (700 Series only)	•			•		
FM	FM Approval – Single element FM Approval – Dual element	•	•	•	•		N/A on all combinations N/A on all combinations
FP	Fungus proofing	•	•	•	•	•	
FS	Factory adjusted setpoint	•	•	•	•	•	Advise static or working pressure for differential pressure switches
G3	Belleville actuator	•					64 or 68 element only. N/A on all combinations
G5	UL Limit control to 150 inH ₂ O				•		Buna-N® and Viton® diaphragm. N/A on all combinations
G6	UL Limit control to 600 psi	•					Buna-N® and Viton® diaphragm. N/A on all combinations
G7	Secondary chamber with vent	•					SS diaphragm required. Teflon diaphragm is the backup. N7 only
G8	Steam limit control to 300 psi	•					
G9	Fire safe welded actuator	•					SS diaphragm only
HS	High static differential pressure			•			Buna-N® and Viton® diaphragm – 15 psid & 30 psid only
HX	High pressure, 40 psi, (static) d/p only 160 psi (proof) d/p only 100 psi (proof) pressure only (inH ₂ O)		•		•		
JK	Left conduit connection	•	•	•	•	•	Standard on N7 Series. N/A with DPDT element on N4 Series
JL	¾" to ½" Reducing bushing	•	•	•	•	•	
JM	Metric electrical conduit conn. M20 x 1.5	•	•	•	•	•	
K3	Terminal block (N7 Series only)	•	•	•	•		Terminal blocks standard with N7 dual switches
LE	6 Foot leads on the Micro Switch	•	•	•	•	•	
NH	SS tag	•	•	•	•	•	
NN	Paper tag	•	•	•	•	•	
PK	Pilot light(s) top mounted	•	•	•	•	•	N/A on N7 Series
PM	¾" Sealed conduit connection w/16" lead wires	•	•	•	•	•	
TA	316 SS pressure connection		•		•		
TM	2" Pipe mounting bracket	•	•	•	•		
UD	316 SS pressure conn.			•			
06	Pressure connection: ½ NPT Male, ¼ NPT Female 316 SS (Combination)	•	•	•	•		Standard with 1,000 and 3,000 psi ranges. Bottom connection
07	½ NPT Female press. conn., 316 SS	•	•	•	•		N/A with Monel® diaphragm
6B	Cleaned for oxygen service	•		•			Buna-N® cannot be cleaned for oxygen service
9F	inH ₂ O housing for outdoor use		•				
YW	316 SS Housing	•	•	•	•		
MD	Metric range on label	•	•	•	•	•	
Y53A	1½" Sanitary seal with 3A Approval	•					
Y63A	2.0" Sanitary seal with 3A Approval	•					
PJ	Pilot light 24 Vdc	•	•	•	•	•	N/A on N7 Series

FEATURES

- Setpoint adjustable from 15-100% of range
- Fixed or adjustable deadband
- Watertight enclosures (L and G-series)
- Explosion proof enclosure (P-series; Dual chamber design)



SPECIFICATIONS

Set Repeatability (Accuracy): $\pm 1\%$ of span (Additional setpoint shift of $\pm 1\%$ of range per 50°F from initial setpoint set at 70°F typical)

Switch Type: SPDT or 2 SPDT with dual setpoints, or 2 SPDT acting as DPDT (L & G only)

Setpoint: Single setpoint, fixed deadband
Single setpoint, adjustable deadband
Dual setpoint, fixed deadband

Deadband: Fixed or adjustable deadband

Enclosure Ratings: G Series - NEMA 4X, IP66
L Series - NEMA 4X, IP66
P Series - NEMA 7/9, IP66

Enclosure Material: G Series - 316L SS
L Series - Epoxy coated aluminum
P Series - Epoxy coated aluminum

Approvals: Watertight L Series - UL, CSA, FM, CE, RoHS
G Series - UL, CSA, CE, RoHS, CRN

Explosion Proof: P Series - UL, CSA, CRN



CLASS I DIV 1 GROUPS B, C, & D
CLASS II DIV 1 GROUPS E, F, & G

WETTED COMPONENTS

Actuator Seal: Buna-N®, Teflon®, Viton®, 316L SS, or Monel®

Process Connection:	Pressure Switches	Differential Switches
1/4 NPT Female (standard)	316 SS or Monel® for psi ranges Epoxy coated carbon steel or 316 SS for IW ranges	Nickel plated brass or 316 SS for psid ranges Epoxy coated carbon steel or 316 SS for IWD ranges



L-Series
Watertight Enclosure
Pressure Switch



G-Series
Watertight Enclosure
Pressure Switch



L-Series
Watertight Enclosure
Differential Pressure Switch



G-Series
Watertight Enclosure
Differential Pressure Switch



P-Series
Explosion-Proof Enclosure



P-Series
Explosion-Proof Enclosure
Differential Pressure Switch



ORDERING CODE	Example:	GPSN4	H	B	25	100#	X6B
Enclosure							
GPSN4 - Single setpoint, fixed deadband, N4 - NEMA 4, 4X, IP65		GPSN4					
GPAN4 - Single setpoint, adjustable deadband, N4 - NEMA 4, 4X, IP65							
GPDN4 - Two independent adjustable setpoints, fixed deadband, N4 - NEMA 4, 4X, IP65							
LPSN4 - Single setpoint, fixed deadband, N4 - NEMA 4, 4X, IP66							
LPAN4 - Single setpoint, adjustable deadband, N4 - NEMA 4, 4X, IP66							
LPDN4 - Two independent adjustable setpoints, fixed deadband, N4 - NEMA 4, 4X, IP66							
PPSN7 - Single setpoint, fixed deadband, N7-NEMA 7/9, IP66, explosion proof Div, 1 & 2							
PDAN7 - Single setpoint, adjustable deadband, N4 - NEMA 4, 4X, IP66, explosion proof Div, 1 & 2							
PPDN7 - Two independent adjustable setpoints, fixed deadband, N4 - NEMA 4, 4X, IP66, explosion proof Div, 1 & 2							
GDSN4 - Single setpoint, fixed deadband, N4 - NEMA 4, 4X, IP65							
GDAN4 - Single setpoint, adjustable deadband, N4 - NEMA 4, 4X, IP65							
GDDN4 - Two independent adjustable setpoints, fixed deadband, N4 - NEMA 4, 4X, IP66							
LDSN4 - Single setpoint, fixed deadband, N4 - NEMA 4, 4X, IP66							
LDAN4 - Single setpoint, adjustable deadband, N4 - NEMA 4, 4X, IP66							
LDDN4 - Two independent adjustable setpoints, fixed deadband, N4 - NEMA 4, 4X, IP66							
PDSN7 - Single setpoint, fixed deadband, N7-NEMA 7/9, IP66, explosion proof Div, 1 & 2							
PDAN7 - Single setpoint, adjustable deadband, N7-NEMA 7/9, IP66, explosion proof Div, 1 & 2							
PDDN7 - Two independent adjustable setpoints, fixed deadband, N7-NEMA 7/9, IP66, explosion proof Div, 1 & 2							
Switch Elements For Single Setpoint with Adjustable Deadband - UL/CSA Listed							
H- General purpose, 10A - 125/250 Vac. 1/2A, 125Vdc, 1/4A, 250Vdc			H				
J - Hermetically sealed, general pupose - 11A, - 125/250 Vac, 5A, 30Vdc							
Single/Dual Switch Setpoint with Fixed Deadband - UL/CSA Listed							
C/CC - Heavy duty ac, 22A - 125/250 Vac							
F/FF - Sealed environment proof, 15A - 125/250 Vac. (estimated dc rating - 4A, 28Vdc, not UL listed)							
G/GG - General purpose, 15A - 125/250/480 Vac, ½A - 125 Vdc, ¼A - 250 Vdc (not listed at 480 Vac)							
H/HH - General purpose, 10A - 125/250 Vac 10A, Vdc (P series only)							
J/JJ - Hermetically sealed switch, general purpose, 11A, 125/250 Vac, 5A, 30 Vdc							
K/KK - Narrow deadband, 15A - 125/250 Vac. (estimated dc rating, 0.4A, 120 Vdc, not UL listed)							
L/LL - Hermetically sealed switch, gold contacts, 1A - 125 Vac							
M/MM - Low level (gold) contacts, 1A - 125 Vac							
P/PP - Hermetically sealed AC - 5A, 125/250 Vac. (estimated dc rating - 2.5A, 28Vdc, not UL listed)							
S/SS - Heavy duty dc, 10A - 125 Vac or dc, ½ HP - 125 Vac or dc.							
U/UU - Manual reset actuates on increasing pressure 15A, 125/250 Vac, 6A, 130Vdc							
Y/YY - High temperature 300°F (148°C) ambient, 15A, 125/250 Vac							
W/WW - Ammonia service - 5A, 125/250 Vac, 6A, 30 Vdc							
Actuator Seal							
	Temperature Limits						
Material	Ambient	Process					
B - Buna-N	-20°F to 150°F	0°F to 150°F		B			
V - Viton®	-20°F to 150°F	20°F to 300°F					
T - Teflon®	-20°F to 150°F	0°F to 150°F					
S - 316L SS	-20°F to 150°F	20°F to 300°F	Not available in vacuum, & inches of water ranges or pressures above 1,000 psi				
P - Monel®	-20°F to 150°F	20°F to 300°F	Not available in vacuum, & inches of water ranges or pressures above 1,000 psi				
Process Connections							
25- ¼ NPT Female					25		
06- ¼ NPT Female and ½ NPT Male combination							
07- ½ NPT Female							
Pressure Range (select from pressure range tables on pages 99-100)						100#	
Options - Select from options table 101 (If choosing an option(s) must include an “X”)							

X _ _

PRESSURE, DIFFERENTIAL PRESSURE RANGES

TABLE 1 - PRESSURE/VACUUM RANGES				Approximate Deadband Switch Element for Buna-N Diaphragm								
Nominal Ranges		Overpressure Ratings		See multiplier TABLE 3 for additional material multipliers								
				LPA-GPA	LPS-GPS				LPD-GPD			
		Proof#	Minimum Burst psi	Switch Element								
J, H	G			J, H	K, F	P	GG	JJ, HH	KK, FF	PP		
Vacuum												
-30IMV	-760mmHg	250	400	6-24	2.5-4	6-24	1-2	1-2.5	3-5.5	4-6.5	1-2	1-2.5
Compound												
-30IMV/ 15#	-760mmHg/ 1.0 kg/cm²	250	400	6-24 3-12	2.5-4 1-2.5	4-6 1-3.5	1-2 0.5-1.5	1-2.5 0.5-2	3-5.5 1.5-5.5	4-6.5 1.5-4	1-2 1-2	1-2.5 1-2
Pressure												
30IW	750mmH₂O	20	35	4.0-27	1.5-3.5	2.0-4.0	0.5-1.0	0.7-2.0	2.1-4.9	2.8-5.6	0.7-1.4	0.7-2.8
6IW	1,500mmH₂O	20	35	5.0-54	1.5-4.0	2.5-5.0	0.5-1.4	1.0-2.5	3-5.6	3.5-7.0	0.7-2.0	2-3.5
100IW	2,500mmH₂O	20	35	8.5-90	2.0-5.5	4.0-8.5	1.0-2.0	1.4-3.0	4-7.7	5.6-11.7	1.4-2.8	1-4.2
150IW	3,750mmH₂O	20	35	18-135	5.0-11	10-18	1.5-3.0	2.0-6.0	7.0-16	14-25.1	2.1-4.2	5-9.2
15#	1.0 kg/cm²	500	1,500	2.5-13	1.0-1.5	1.0-2.5	0.5-1.0	0.75-1.5	1.4-2.1	1.4-3.5	0.7-1.4	1-1.4
30#	2.0 kg/cm²	500	1,500	3.0-27	1.0-2.8	1.0-3.2	0.75-1.5	1-1.8	1.4-5	3-6	1-2.1	1.4-2.5
60#	4.0 kg/cm²	500	1,500	5-54	2.0-4.0	2.0-4.5	1.0-2.0	1.0-2.5	3-7	4-8	1.4-2.8	1.4-3.5
100#	7.0 kg/cm²	1,000	3,000	10-90	3-6	5.0-10	1.0-2.5	1.4-3.2	7-12	7.0-14	1.4-3.5	3-7
200#	14 kg/cm²	1,000	3,000	18-180	7-14	10-18	1.0-4.0	5.0-8.0	10-23	14-25	1.4-5.6	7.0-11.2
400#	28 kg/cm²	2,400	3,000	45-360	16-30	16-45	4.0-8.0	5.0-15	22-42	22-63	5.6-11.2	7.0-21
600#	42 kg/cm²	2,400	3,000	75-540	16-50	20-75	5.0-15	6.0-25	22-70	28-105	7.0-21	8.0-35
1000# ⁽¹⁾	70 kg/cm²	12,000 ⁽¹⁾	14,000	160-900	75-130	50-160	7.0-30	10-85	70-180	70-223	10-42	14-119
2000#	140 kg/cm²	12,000	14,000	350-1,800	150-200	150-350	20-50	25-110	209-279	209-488	28-70	35-154
3000#	210 kg/cm²	12,000	14,000	400-2,600	180-250	180-400	30-70	30-190	251-349	251-558	42-98	42-226

(1) Proof pressure is 4,000 psi with SS and Monel® welded diaphragms

TABLE 2 - DIFFERENTIAL PRESSURE RANGES				Approximate Deadband Switch Element for Buna-N Diaphragm								
Nominal Ranges		Overpressure Ratings		See multiplier TABLE 3 for additional material multipliers								
				LDA-GDA	LDG-GDA				LDG-GDA			
		Switch Element										
		Static #	Minimum Proof #	J, H	G	J, H	K, F	P	GG	JJ, HH	KK, FF	PP
Differential Pressure												
30IWD	−760mmHg	5.4	21.6	4.0-27	1.3-3.5	2.0-4.0	0.5-1.0	0.7-2.0	2.1-4.9	2.8-5.6	0.7-1.4	0.7-2.8
60IWD	1,500mmH ₂ O	5.4	21.6	5.0-54	1.5-4.0	2.5-5.0	0.5-1.4	1.0-2.5	3-5.6	3.5-7.0	0.7-2.0	2-3.5
100IWD	2,500mmH ₂ O	5.4	21.6	8.5-90	2.0-5.5	4.0-8.5	1.0-2.0	1.4-3.0	4-7.7	5.6-11.7	1.4-2.8	1-4.2
150IWD	3,750mmH ₂ O	5.4	21.6	18-135	5.0-11	10-18	1.5-3.0	2.0-6.0	7.0-16	14-25.1	2.1-4.2	5-9.2
30#D	2.0 kg/cm ²	500	1,500	3.0-27	1.0-2.8	1.0-3.2	0.75-1.5	1-1.8	1.4-5	3-6	1-2.1	1.4-2.5
60#D	4.0 kg/cm ²	500	1,500	5-54	2.0-4.0	2.0-4.5	1.0-2.0	1.0-2.5	3-7	4-8	1.4-2.8	1.4-3.5
200#D	14 kg/cm ²	1,000	3,000	18-180	7-14	10-18	1.0-4.0	5.0-8.0	10-23	14-25	1.4-5.6	7.0-11.2
400#D	28 kg/cm ²	2,400	3,000	45-360	16-30	16-45	4.0-8.0	5.0-15	22-42	22-63	5.6-11.2	7.0-21

TABLE 3 - DEADBAND MULTIPLIER TABLE		
Diaphragm Material	Multiply	Notes
Buna-N®	1.0	Multiplier table for additional diaphragm materials
Viton®	1.4	
Teflon®	1.7	
316 SS	1.7	
Monel®	1.7	

PRESSURE, DIFFERENTIAL PRESSURE RANGES

TABLE 1 - PRESSURE/VACUUM RANGES					Approximate Deadband Switch Element for Buna-N® Diaphragm									
Nominal Ranges			Overpressure Ratings		See multiplier TABLE 3 for additional material multipliers									
					PPA	PPS					PPD			
			Switch Element											
			Proof psi	Minimum Burst psi	J, H	G	J, H	K, F	P	GG	JJ, HH	KK, FF	PP	
Vacuum														
-30IMV	-760mmHg	-100 kPa	250	400	7-26	3-5	3-6.5	1-2	1-2.5	3-5	4-6.5	1-2	1-2.5	
Compound														
-30IMV/ 15#	-760mmHg/ 1.0 kg/cm²	-100 kPa 100 kPa	250	400	10-25 4-13	3-5 1-2	4-6 1-3.5	1-2 0.5-1	1-2.5 0.5-1.2	3-5 2-4	2.5-4.5 1.3	1-2 0.5-1	1-2.5 0.5-1.2	
Pressure														
30IMV	750mmH₂O	7.5 kPa	20	35	4-27	1.5-3.5	2-5	0.5-1	0.5-2	1.5-3.5	2-5	0.5-1	0.5-2	
60IMV	1,500mmH₂O	15 kPa	20	35	5-54	1.5-3.5	2.5-5	0.5-1.3	1-2	1.5-3.5	2.5-5	0.5-1.3	1-2	
100IMV	2,500mmH₂O	25 kPa	20	35	8.5-90	4-6	4-8.5	1-2	1-3	4-7	4-8.5	1-2	1-3	
150IMV	3,750mmH₂O	37 kPa	20	35	18-135	5.0-11	10-18	1.5-3	2-6	8-14	10-18	1.5-3	2-6	
15#	1.0 kg/cm²	100 kPa	500	1,500	2.5-13	1-2	1-3	0.5-1	0.5-1.2	1-2	1-3	0.5-1	0.5-1.2	
30#	2.0 kg/cm²	200 kPa	500	1,500	3-26	1-2.5	2-4.5	0.5-1.5	0.5-1.5	1-2.5	2-4.5	0.5-1.5	0.5-1.5	
60#	4.0 kg/cm²	400 kPa	500	1,500	5-54	2-4	4-7	1-2	1-2.5	2-4	4-7	1-2	1-2.5	
100#	7.0 kg/cm²	700 kPa	1,000	3,000	10-90	5-7	5-10	1-2.5	2-4	5-7	5-10	1-2.5	2-4	
200#	14 kg/cm²	1,400 kPa	1,000	3,000	20-180	10-15	10-18	1-4	5-8	10-20	15-35	3-6	5-8	
400#	28 kg/cm²	2,800 kPa	2,400	3,000	45-360	16-30	16-45	4-8	5-15	16-30	16-45	4-8	5-15	
600#	42 kg/cm²	4,200 kPa	2,400	3,000	75-540	16-50	20-75	5-15	6-25	16-50	20-75	5-15	6-25	
1000#	70 kg/cm²	7,000 kPa	12,000	14,000	160-900	75-130	50-160	7-30	10-85	75-130	50-160	7-30	10-85	
2000#	140 kg/cm²	14,000 kPa	12,000	14,000	350-1,800	150-200	150-350	20-50	25-110	15-200	150-350	20-50	25-110	
3000#	210 kg/cm²	21,000 kPa	12,000	14,000	400-2,600	180-250	180-400	30-70	50-250	180-250	180-400	30-70	50-250	
TABLE 2 - DIFFERENTIAL PRESSURE RANGES					Approximate Deadband Switch Element for Buna-N® Diaphragm									
Nominal Ranges			Overpressure Ratings		See multiplier TABLE 3 for additional material multipliers									
					PDA	PDS					PDD			
			Switch Element											
			Static psi	Minimum Proof psi	J, H	G	J, H	K, F	P	GG	JJ, HH	KK, FF	PP	
Differential Pressure														
30IWD	-760mmHg	5.4	21.6	5.5-27	3-5	4-6.5	0.5-1	0.5-2	3-5	4-6.5	0.5-1	0.5-2		
60IWD	1,500mmH₂O	5.4	21.6	5.5-54	3-5	4.5-6.5	0.5-1.3	1-2	3.5	4-6.5	0.6-1.3	1-2		
100IWD	2,500mmH₂O	5.4	21.6	8.5-90	4-6	4.0-8.5	1-2	1-3	4-7	4-8.5	1-2	1-3		
150IWD	3,750mmH₂O	5.4	21.6	18-135	5-11	10-18	1.5-3	2-6	8-12	10-18	1.5-3	2-6		
30#D	1.0 kg/cm²	500	1,500	2.5-13	1-2	1-3	0.5-1	0.5-1.2	1-2	1-3	0.5-1	0.5-1.2		
60#D	2.0 kg/cm²	500	2,000	6.5-54	1-2.5	2-4.5	1-1.5	1-1.5	1-2.5	2-4.5	0.5-1.5	0.5-1.5		
100#D	7.0 kg/cm²	1,000	4,000	10-90	5-7	5-10	1-2.5	2-4	5-7	5-10	1-2.5	2-4		
200#D	14 kg/cm²	1,000	4,000	20-180	10-15	10-18	1-4	5-8	10-20	10-18	3-6	5-8		
400#D	28 kg/cm²	1,000	8,000	45-360	16-30	16-45	4-8	5-15	16-30	16-45	4-8	5-15		

TABLE 3 - MULTIPLIER TABLE

Diaphragm Material	Multiply	Notes
Buna-N®	1.0	Multiplier table for additional diaphragm materials
Viton®	1.4	
Teflon®	1.7	
316 SS	1.7	
Monel®	1.7	

OPTIONAL FEATURES AND ACCESSORIES

					Pressure		Differential Pressure	
Code	Description	G Series	L Series	P Series	psi	inH ₂ O	psid	inH ₂ O
CH	Chained cover	•	•	•	•	•	•	•
FP	Fungus proofing	•	•		•	•	•	•
FS	Factory adjusted setpoints	•	•	•	•	•	•	•
G5	Gas/Oil UL Limit control to 150 inH ₂ O (LDS only)		•					•
G6	Gas/Oil UL Limit control to 600 psi (LDS only)		•		•			
G8	Steam limit control to 600 psi		•		•			
G9	Fire safe actuator High operating pressure for inH ₂ O ranges	•	•	•	•			
HX	40 psi Static (Pressure and D/P) 100 psi Proof (Pressure) 160 psi Proof (D/P)	•	•	•		•	• (N/A P Series)	
JL	¾" to ½" Reducing bushing	•	•	•	•	•	•	•
K3	Terminal blocks	•	•	•	•	•	•	•
NH	Tagging SS	•	•	•	•	•	•	•
PK	Pilot lights		•		•	•	•	•
PM	¾" Sealed conduit connection with 16" lead wires	•	•	•	•	•	•	•
PM	316 SS pressure connection for H ₂ O ranges	•	•	•	•	•		•
UD	316 SS Pressure Connection for psid ranges	•	•	•			•	
2C	DPDT with Single Setpoint Adjustment	•	•		•	•	•	•
6B	Cleaned for oxygen service	•	•	•	•		•	
FM	FM Approval		•		•	•	•	•
Y53A	1½" Sanitary seal with glycerin fill with 3A Approval	•	•					
Y63A	2" Sanitary seal with glycerin fill with 3A Approval	•	•			•		
HS	High static operating pressure for psi range D/P	•	•	•			•	
D2	Dual seal rating			•	•			•
C8	CSA Approval (standard on G & L)			•	•	•	•	•

FEATURES

- Setpoint adjustability 15-100% of range
- Dual chamber for safety
- Explosion proof enclosure with hermetically sealed switch elements

SPECIFICATIONS

Set Repeatability (Accuracy):	±1% of span (additional setpoint shift of ±1% of range per 50°F from initial setpoint set at 70°F typical)
Switch Type:	SPDT or 2 SPDT DPDT action
Setpoint:	Single setpoint - Factory set or field adjustable
Deadband:	Fixed
Enclosure Ratings:	NEMA 3, 4, 7, 9, IP66
Enclosure Material:	Anodized aluminum
Approvals:	UL, CSA



CLASS I DIV 1, DIV 2 GROUPS A, B, C, & D
CLASS II DIV 1 GROUPS E, F, & G

WETTED COMPONENTS

Actuator Seal:	Buna-N®, Teflon®, Viton®, 316L SS
Process Connection:	316 SS

7A - NOMINAL RANGE AND PERFORMANCE TABLE-BUNA-N® (CODE B)

Nominal Ranges		Proof Press.	Deadband (by Switch Element)	
psi	bar		Code J	Code P, L
30 IMV	-1	1,000	1.8-8.0	0.4-5.0
30#	2	1,000	0.2-1.5	0.1-1.3
60#	4	1,000	0.2-2.5	0.3-1.5
100#	7	1,000	0.5-4.0	0.5-2.5
200#	14	1,000	1.5-8.0	0.5-5.0
400#	28	1,600	3.0-15.0	1.5-9.0
600#	40	2,400	4.0-28.0	2.0-15.0
1000#	70	4,000	6.0-50.0	3.0-30.0

7B - NOMINAL RANGE AND PERFORMANCE TABLE-HIGH PRESSURE (CODE H)

Nominal Ranges		Proof Press.	Deadband (by Switch Element)	
psi	bar		Code J	Code P, L
1000#	70	12,000	50-100	N/A
2000#	140	12,000	100-200	N/A
3000#	210	12,000	150-300	N/A
4000#	280	16,000	150-350	N/A



F-Series
Explosion-Proof Enclosure

7C - NOMINAL RANGE AND PERFORMANCE TABLE-WELDED SS (CODE S)

Nominal Ranges		Proof Press.	Deadband (by Switch Element)	
psi	bar		Code J	Code P, L
30#	2	1,000	1.0-4.5	0.5-3.5
60#	4	1,000	1.0-5.0	0.5-4.0
100#	7	1,000	1.5-10.0	1.0-6.0
200#	14	1,000	2.0-18.0	1.0-12.0
400#	28	1,600	5.0-32.0	2.0-20.0
600#	40	2,400	9.0-50.0	4.0-30.0
1000#	70	4,000	15.0-80.0	7.0-50.0

7D - NOMINAL RANGE AND PERFORMANCE TABLE-VITON®, TEFLON®, SS w/VITON O-RING (CODES V, T & R)

Nominal Ranges		Proof Press.	Deadband (by Switch Element)	
psi	bar		Code J	Code P, L
30 IMV	-1	1,000	1.5-10.0	0.5-7.0
30#	2	1,000	0.5-3.5	0.2-2.5
60#	4	1,000	0.5-4.0	0.5-3.0
100#	7	1,000	1.0-7.0	1.0-4.5
200#	14	1,000	2.5-12.0	1.0-8.5
400#	28	1,600	5.0-30.0	2.0-17.0
600#	40	2,400	8.0-48.0	4.0-34.0
1000#	70	4,000	10.0-80.0	5.0-55.0

F-Series Pressure Switches

ORDERING CODE	Example:	FPS	N7	P	B	25	XFS	100#
Function								
FPS - Single setpoint, fixed deadband		FPS						
Enclosure								
N7 - NEMA 3, 4, 7, 9 & IP66, anodized aluminum for hazardous locations			N7					
Switch Elements, UL/CSA Listed								
P - Hermetically sealed, narrow deadband - 5A, - 125/250 Vac				P				
J - Hermetically sealed, general purpose - 11A, - 125/250 Vac, 5A, 30Vdc								
L - Hermetically sealed, gold contacts, 1A - 125 Vac								
JJ - Dual hermetically sealed, general purpose, 11A, 125/250 Vac, 5A, 30 Vdc								
LL - Dual hermetically sealed, gold contacts, 1A - 125 Vac								
Actuator Seal								
	Temperature Limits.							
Material	Ambient	Process						
B - Buna-N®	-20°F to 150°F	0°F to 150°F			B			
V - Viton®	-20°F to 150°F	20°F to 200°F						
T - Teflon®	-20°F to 150°F	0°F to 150°F						
R - SS diaphragm/Viton® O-ring	-20°F to 150°F	0°F to 150°F						
S - 316L SS	-20°F to 150°F	20°F to 200°F						
H - SS piston/Viton® O-ring	-20°F to 150°F	20°F to 200°F						
Process Connections								
25- ¼ NPT Female						25		
07- ½ NPT Female								
Options (if choosing an option(s) must include an "X")							X_ _	
FP - Fungus proofing								
FS - Factory adjusted setpoint							FS	
K3 - Terminal blocks								
NH - SS tag								
6B - Clean for oxygen service								
Pressure Range (select from pressure range table on page 102)								
100# - 100 psi								100#

FEATURES

- Rugged enclosure
- High static pressure capability up to 1,500 psi
- Wide selection of switch elements and wetted materials
- Explosion proof enclosure

SPECIFICATIONS

Set Repeatability (Accuracy):	±1% of span (additional setpoint shift of ±1% of range per 50°F from initial setpoint set at 70°F typical)
Switch Type:	SPDT or DPDT
Setpoint:	Single setpoint, field adjustable
Deadband:	Fixed
Enclosure Ratings:	Watertight: NEMA 4X & 12 Explosion proof housing
Enclosure Material:	Cast aluminum
Approvals:	Watertight and explosion proof: UL (Class 1, Div. 1, Groups C & D)

WETTED COMPONENTS

Actuator Seal:	Buna-N®, Teflon®, Viton®
Process Connection:	¼ NPT Female, aluminum or SS

Maximum Deadband in IWD per Micro Switch Type for 50 psi Static Range

Range (IWD)	1K	1G	1M	1J	2K	2G	2M	2J
0-1.5	0.4	0.7	0.7	4.2	0.8	1.4	1.4	8.4
0-3.0	0.6	1.2	1.2	7.2	1.2	2.4	2.4	14.4
0-6.0	0.7	1.4	1.4	8.4	1.4	2.8	2.8	16.8

Maximum Deadband in IWD per Micro Switch Type for 250 psi Static Range

Range (IWD)	1K	1G	1M	1J	2K	2G	2M	2J
0-15	0.4	0.7	0.7	4.2	0.8	1.4	1.4	8.4
0-30	0.6	1.2	1.2	7.2	1.2	2.4	2.4	14.4
0-60	0.7	1.4	1.4	8.4	1.4	2.8	2.8	16.8
0-100	0.8	1.6	1.6	9.6	1.6	3.2	0.2	19.2
0-150	1.2	2.5	2.5	15.0	2.4	5.0	5.0	30.0

Maximum Deadband in IWD per Micro Switch Type for 1,500 psi Static Range

Range (IWD)	1K	1G	1M	1J	2K	2G	2M	2J
0-6	1.1	2.2	2.2	6.6	2.2	4.4	4.4	13.2
0-15	1.2	2.3	2.3	6.9	2.4	4.6	4.6	13.8
0-30	1.2	2.3	2.3	6.9	2.4	4.6	4.6	13.8
0-60	1.3	2.5	2.5	7.5	2.6	5.0	5.0	15.0
0-100	1.5	2.9	2.9	8.7	3.0	5.8	5.8	17.4
0-150	1.7	3.4	3.4	10.2	3.4	6.8	6.8	20.4

DDS-Series
250 psi Differential
Pressure Switch



DDS-Series
1,500 psi Differential
Pressure Switch



RANGE

1.5 IWD	0 - 1.5 Inches of Water Differential
6 IWD	0 - 6.0 Inches of Water Differential
15 IWD	0 - 15.0 Inches of Water Differential
30 IWD	0 - 30.0 Inches of Water Differential
60 IWD	0 - 60.0 Inches of Water Differential
100 IWD	0 - 100.0 Inches of Water Differential
150 IWD	0 - 150.0 Inches of Water Differential
3.7MBD	0 - 3.7 mBar Differential
15MBD	0 - 15.0 mBar Differential
35MBD	0 - 35.0 mBar Differential
75MBD	0 - 75.0 mBar Differential
150MBD	0 - 150.0 mBar Differential
250MBD	0 - 250.0 mBar Differential
350MBD	0 - 350.0 mBar Differential
38MWD	0 - 38.0 mmH ₂ O Differential
150MWD	0 - 150.0 mmH ₂ O Differential
350MWD	0 - 350.0 mmH ₂ O Differential
750MWD	0 - 750.0 mmH ₂ O Differential
1500MWD	0 - 1,500.0 mmH ₂ O Differential
2500MWD	0 - 2,500.0 mmH ₂ O Differential
3500MWD	0 - 3,500.0 mmH ₂ O Differential
0.37KPD	0 - 0.37 kPa Differential
1.5KPD	0 - 1.5 kPa Differential
3.5KPD	0 - 3.5 kPa Differential
7.5KPD	0 - 7.5 kPa Differential
15KPD	0 - 15 kPa Differential
25KPD	0 - 25 kPa Differential
35KPD	0 - 35 kPa Differential

DDS-Series Differential Pressure Switch

ORDERING CODE	Example:	DDSN4	1G	S	B	A	25	L	100#	60IWD	15R	XC4
Function/Enclosure												
DDSN4 - Single setpoint, fixed deadband. Watertight NEMA 4X housing		DDSN4										
DDSN7 - Single setpoint, fixed deadband. Explosion Proof, Class 1, Groups C & D, Class 2, Groups E, F & G												
Switch Elements												
Single Switch												
1G - General purpose, SPDT – 15A @ 125/250/480 VAC			1G									
1K - Narrow deadband, SPDT - 15A @ 125/250/480 VAC												
1M - Gold contact, SPDT – 1 A @ 125 VAC												
1J - Hermetically sealed, SPDT – 1A @125 VAC, 1A @ 28 VDC resistive, 0.5A @ 28 VDC Inductive												
Dual Switch												
2G - General purpose, DPDT – 15A @ 125/250/480 VAC												
2K - Narrow deadband, DPDT - 15A @ 125/250/480 VAC												
2M - Gold contact, DPDT – 1 A @ 125 VAC												
2J - Hermetically sealed, DPDT – 1A @125 VAC, 1A @ 28 VDC resistive, 0.5A @ 28 VDC Inductive												
Electrical Connection (¾ NPT female conduit connection)												
S - Screw terminals on Micro Switch				S								
Actuator Seals For DDS Series												
Material Ambient Temp.												
B - Buna-N®, -20°F to 180°F					B							
V - Viton®, -20°F to 180°F (not available with 1,500 psi static range H)												
T - Teflon®, -20°F to 180°F (not available with 1,500 psi static range H)												
Lower Housing Material												
A - Aluminum housing and process connections						A						
S - 316 SS housing and process connections												
Process Connection												
25 - ¼ NPT Female							25					
Static Pressure Range												
L - 50 psi maximum static pressure 0-1.5 through 0-0.6 IWD								L				
L - 250 psi maximum static pressure 0-15 through 0-150 IWD												
H - 1,500 psi maximum static pressure 0-6 through 0-150 IWD												
Static Pressure Setpoint												
_____ Setpoint static pressure (5 characters maximum). Units allowed #(psi), BR (Bar), KG (kg/cm²), MP (MPa)									100#			
NSR - No static setpoint required												
Differential Pressure Range (see pressure range table on page 104)												
60IWD - 0-60 inH ₂ O										60IWD		
Setpoint/Direction												
_____R Factory-set rising (Increasing) setpoint (5 characters maximum)											15R	
_____D Factory-set decreasing setpoint (5 characters maximum)												
NSR - Not factory set												
Options (if choosing an option(s) must include an "X")												
NH - SS tag wired to case												X _ _
JK - Dual ¾ NPT Female conduit connections												
C4 - Certified calibration report												C4
NN - Paper tag												